

IN THE CLAIMS

Please amend the claims to read as follows:

Listing of Claims

1-13. (Canceled).

14. (Currently Amended) A radio base station apparatus that communicates with a communication terminal, the radio base station apparatus comprising:

an encoder that has a table storing a plurality of mutually uncorrelated symbol patterns
and that encodes a transmission signal former that multiplexes a plurality of types of control
information for a single communication terminal for use in uplink packet transmission, using a
~~single spreading code and a plurality of symbol patterns that differ between the plurality of types~~
of control information; and ~~and forms transmission signals~~

a spreader that spreads the plurality of types of control information after the encoding,
using a single spreading code common between the plurality of types of control information.

15. (Currently Amended) A radio base station apparatus that communicates with a communication terminal, the radio base station apparatus comprising:

a first transmission signal former that spreads transmission data for a first communication terminal using a first spreading code assigned to said first communication terminal and forms a first dedicated channel signal for said first communication terminal, and that spreads transmission data for a second communication terminal using a second spreading code assigned

to said second communication terminal and forms a second dedicated channel signal for said second communication terminal; and

a second transmission signal former that multiplexes a plurality of types of first control information for the first communication terminal and a plurality of types of second control information for the second communication terminal using a third spreading code, which is provided for common use by the first and second communication terminals, and a plurality of mutually uncorrelated symbol patterns that differ between the plurality of types of first control information and between the plurality of types of second control information and that forms transmission signals for the first and second communication terminals, wherein

the second transmission signal former comprises an encoder that has a pattern table storing the plurality of mutually uncorrelated symbol patterns and that encodes the plurality of types of first control information and the plurality of types of second control information, using symbol patterns that differ between the types of control information.

16. (Currently Amended) A radio base station apparatus that communicates with a communication terminal, the radio base station apparatus comprising a multiplexer that multiplexes a plurality of types of control information for a plurality of communication terminals for use in uplink packet transmission, using a spreading code and symbol patterns in a plurality of combinations, said plurality of types of control information being provided per communication terminal, wherein

the multiplexer comprises: multiplexes the plurality of types of control information for a single communication terminal using a single spreading code and a plurality of symbol patterns that differ between the plurality of types of control information

an encoder that has a pattern table storing a plurality of mutually uncorrelated symbol patterns and that encodes a plurality of types of control information for a single communication terminal for use in uplink packet transmission, using symbol patterns that differ between the types of control information; and

a spreader that spreads the plurality of types of control information after the encoding, using a single common spreading code.

17. (Currently Amended) A radio network controller apparatus comprising:
an assigner that assigns a spreading code and symbol patterns in a plurality of combinations to a plurality of types of control information for a plurality of communication terminals for use in uplink packet transmission, said plurality of types of control information being provided per communication terminal, wherein

the assigner assigns a single spreading code and a plurality of symbol patterns that differ between the types of control information, to the plurality of types of control information for a single communication terminal.

18. (Previously Presented) The radio base station apparatus of claim 15, further comprising:

a first transmit power controller that controls transmit power of dedicated channel signals on a per dedicated channel basis; and

a second transmit power controller that controls a transmit power of the plurality of types of first control information and a transmit power of the plurality of types of second control information, according to a transmit power of a dedicated channel for the first communication terminal and a transmit power of a dedicated channel for the second communication terminal, respectively.

19. (Currently Amended) The radio base station apparatus of claim 14 ~~[[15]]~~, wherein the plurality of types of control information comprises ~~comprise~~ at least one of a packet transmission rate, a coding rate, a spreading factor, the number of spreading codes, a modulation scheme, a packet data size, a transmit power, and information about retransmission.

20. (Currently Amended) A communication terminal apparatus comprising:

a despreader that despreads a signal from a radio base station apparatus using a single spreading code provided for a single communication terminal apparatus;

a decoder that extracts a plurality of types of control information using symbol patterns provided from the radio base station apparatus, said plurality of types of control information for the communication terminal apparatus being multiplexed in the signal using the ~~the~~ [[a]] plurality of symbol patterns; and

a transmission signal former that forms uplink transmission packets based on the plurality of types of control information extracted by the decoder, wherein

the decoder selects the symbol patterns provided from the radio base station apparatus from a plurality of mutually uncorrelated symbol patterns, and decodes the signal after the despreading using the selected symbol patterns.

21. (Currently Amended) The communication terminal apparatus of claim 20, wherein the plurality of types of control information comprises ~~comprise~~ at least one of a packet transmission rate, a coding rate, a spreading factor, the number of spreading codes, a modulation scheme, a packet data size, a transmit power, and information about retransmission.

22. (Currently Amended) A transmission signal generation method comprising:
selecting symbol patterns that differ between types of control information, from a plurality of mutually uncorrelated symbol patterns stored in a pattern table;

encoding a plurality of types of control information for a single communication terminal using the selected ~~a plurality of symbol patterns that differ between the plurality of types of control information;~~ and

spreading the plurality of types of control information after the encoding, using a single common spreading code.

23. (Currently Amended) A method of receiving a plurality of types of control information for a communication terminal, the method comprising:

despreading a received signal using a single spreading code common to the plurality of types of control information; and

selecting symbol patterns provided from a radio base station apparatus, from a plurality of mutually uncorrelated symbol patterns; and

decoding the signal after the despreading using the selected ~~a plurality of~~ symbol patterns that differ between the plurality of types of control information.

24. (Currently Amended) A radio communication system that transmits a plurality of types of control information for a single communication terminal for use in uplink packet transmission, the radio communication system comprising:

a radio network controller apparatus;

a radio base station apparatus; and

a mobile station apparatus, wherein:

the radio network controller apparatus designates a plurality of symbol patterns, which differ between the plurality of types of control information, and a spreading code common to the plurality of types of control information for the radio base station apparatus and the mobile station apparatus;

the radio base station apparatus transmits the plurality of types of control information to the mobile station apparatus using the plurality of symbol patterns and the spreading code; and

the mobile station apparatus extracts the plurality of types of control information using the plurality of symbol patterns and the spreading code, and

the radio network controller apparatus commands the radio base station apparatus and the mobile station apparatus to use different symbol patterns between the types of control information, from a plurality of mutually uncorrelated symbol patterns.

25-30. (Canceled).